

REMARKS

Claims 9, 55 and 56 have been amended. Claims 9, 10, 12, 14, 23-28, and 51-59 remain in the application. Reconsideration of the application in view of the amendments and the remarks to follow is requested.

Claims 55-56 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Applicant has amended the claims as suggested by the Examiner, and therefore, the §112 rejection is rendered moot.

Claims 9, 12, 14, and 55-56 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen et al. (4,975,221) in view of Tsukagoshi et al. (5,843,251), Kropp et al. (5,362,421), or Inoue et al. (5,728,473). Claims 23-27 and 57-59 stand rejected under 35 U.S.C. §103(a) as being obvious over Chen et al. Claims 10, 28, and 51-54 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen et al. in view of Tsukagoshi et al., Kropp et al., and Inoue et al. and further in view of Tuttle (5,558,679).

Claim 9 is amended to recite providing a curable adhesive composition comprising only three components, a silane, a conductive filler and a hardener. The amended language is supported by the originally-filed application by an exemplary embodiment described at, for example, pages 5-6. The references, singularly or in any combination, fail to teach or suggest an adhesive composition comprising only three components, the three components comprising a **saline**,

a **conductive filler** and **hardener**. For example, Chen teaches an adhesive composition comprising at least six components (col. 3, lines 15-23; table in col. 4). Tsukagoshi teaches an adhesive with at least eight components (col. 10, lines 52-58). Moreover, Tsukagoshi teaches only insulative adhesives that would contain no electrical conductive particles such as the conductive filler recited in claim 9 (col. 12, lines 1-6). Inoue teaches an adhesive polyimide composition that comprises at least six components (col. 8, lines 30-67; table 1 of col. 9). Kropp teaches a conductive adhesive composition that comprises at least seven components, with an option for two additional components for a total of nine components (abstract). Consequently, the combination of art, singularly or in any combination, fails to teach or suggest an adhesive composition comprising **only three** components, the three components comprising a silane, conductive filler and hardener as positively recited in claim 9. Since the combination of art fails to teach or suggest a positively recited limitation of claim 9, claim 9 is allowable.

Claims 10, 12, 51-52 and 55-56 depend from independent claim 9, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are not shown or taught by the art of record.

Regarding the obviousness rejection against claim 23 based on Chen, such claim recites a curable epoxy composition having an effective metal surface wetting concentration of silane to form a cured electrical interconnection having a contact resistance through said metal surface of less than or equal to about

0.3 ohm-cm². The Examiner states that one in the art would appreciate that the concentration of silane taught in the adhesive of Chen is within the effective concentration range taught by Applicant, and therefore, it would be expected for the adhesive of Chen to have a contact resistance of the desired values (Applicant assumes the Examiner is referring to recited values of Applicant's claims) (paragraph 6 of paper no. 19). The Examiner further states that Applicant discloses that the desired contact resistance is achieved by using a silane in an amount less than 2% by weight, and that both Chen and Applicant teach having a silane concentration of less than 2%, and therefore, one skilled in the art would appreciate that only the expected results would be achieved by Chen to the desired recited contact resistance (page 8, last paragraph and page 9, first paragraph of paper no. 19). However, the Examiner statement is assuming that the exemplary epoxy compositions disclosed and claimed by Applicant are the same as taught by Chen, and there is absolutely no teaching that the compositions are the same. One skilled in the art understands different compositions have different electrical characteristics, and therefore, without any teachings that the Chen adhesive is the same as Applicant's epoxy composition, the logic by the Examiner fails.

Applicant discloses an epoxy composition wherein the epoxy composition and a silane component provide the claimed contact resistance and submits it is to the epoxy having an effective metal surface wetting concentration of silane to form a cured electrical interconnection having a contact resistance through said

metal surface of less than or equal to about 0.3 ohm-cm² as is positively recited that provides the claimed contact resistance. Chen teaches an adhesive having at least six components including expoxide(s), modifier, curing agent, catalyst, adhesion promoter, and metal (col. 3, lines 15-23; table in col. 4). The rejection based upon adding a silane concentration to a different composition disclosed by Chen to allegedly teach the claimed contact resistance recited in claim 23 can only result from the personal knowledge of the Examiner inasmuch as the art fails to disclose or suggest the limitations of claim 23. Accordingly, Applicant requests submission of affidavit in support of the rejection pursuant to MPEP §2144.03 and 37 C.F.R. §1.104(d)(2). One skilled in the art clearly understands that different epoxy compositions have different electrical characteristics and the addition or deletion of any one component effects the contact resistance of the composition. Chen fails to teach or suggest the epoxy having a contact resistance through said metal surface of less than or equal to about 0.3 ohm-cm² as positively recited in claim 23. There is absolutely no teaching or suggestion in the art of the six components disclosed by Chen to forming a cured electrical interconnection having a contact resistance through said metal surface of less than or equal to about 0.3 ohm-cm² as is positively recited in claim 23. Since the art of record fails to teach or suggest the positively recited limitation of claim 23, claim 23 is allowable. Applicant requests clarification of the rejection, or an affidavit, in a non-final action if claim 23 is not allowed.


Claims 24-28, 53-54 and 57-59 depend from independent claim 23, and therefore, are allowable for the reasons discussed above with respect to the

independent claim, as well as for their own recited features which are not shown or taught by the art of record.

The Examiner is requested to phone the undersigned if the Examiner believes such would facilitate prosecution of the present application. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

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